SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

ALPHAGAGE
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CALIBRATION

Valid To: April 30, 2012 Certificate Number: 1925.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1]:

I. Dimensional

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Micrometers –			
Hole	Up to 4 in	130 µin	Ring masters
Outside	Up to 12 in	(130 + 6*L*) µin	Grade 3 gage blocks
Micrometers[3] –			
Hole	Up to 4 in	190 µin	Ring masters
Outside	Up to 12 in	(69 + 23*L*) µin	Grade 3 gage blocks
Cylindrical Plain Ring Gages	(0.25 to 7.8) in	(17 + 1.5*L*) µin	SIP 302M UMM

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Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Calipers –			Grade 3 gage blocks
Analog/Vernier	Up to 12 in	0.6*R*	
Digital	Up to 12 in	0.6*R*	
Calipers[3] –			
Analog/Vernier	Up to 12 in	0.7*R*	Grade 3 gage blocks
Digital	Up to 12 in	0.9*R*	
Indicators –			Federal products digital indicator calibrator
Test Indicators	Up to 0.100 in	26 μin	
Dial Indicators	Up to 4 in	78 μin	
Indicators[3] –			Federal products digital indicator calibrator
Test Indicators	Up to 0.100 in	33 μin	
Dial Indicators	Up to 4 in	140 μin	
Pin Gages and Cylindrical Plain Plug Gages	(0 to 2) in	(60 + 3.7*D*) μin	Heidenhain digital indicator
	Up to 10 in	(16 + 1.4*L*) μin	SIP 302M UMM
Tapered Threaded Plug Gages –			
Pitch Diameter	Up to 3 in	120 μin	Tapered sine block, three wire method
Major Diameter	Up to 3 in	60 μin	P & W Super-mic w/ tapered sine block
Lead	Up to 3 in	190 μin	Optical comparator
Half Angle	0^o to 30^o	10’	Optical comparator

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Straight Threaded Plug Gages –			
Pitch Diameter	Up to 4 in	91 µin	Three wire method
Major Diameter	Up to 4 in	24 µin	P & W Super-mic
Lead	Up to 4 in	190 µin	Optical comparator
Half Angle	0^o to 30^o	10’	Optical comparator
Thread Measuring Wires	(4 to 80) TPI	17 µin	SIP 302M over master cylinders
Fastener Length	Up to 6 in	620 µin	Gage blocks
Fastener Length[3]	Up to 6 in	650 µin	Gage blocks
Protrusion Height Gages	Diameters up to 1.000 in	83 µin	Master gaging balls and digital indicator
Protrusion Height Gages[3]	Diameters up to 1.000 in	150 µin	Master gaging balls and digital indicator
Gauging Balls	(0 to 2) in	(36 + 1.4*L*) µin	SIP 302M UMM
Gage Blocks	(0.1 to 4) in	(3 + 1.9*L*) µin	By dual contact mechanical comparison
Gear Wires – All Series	Up to 0.5 in	(18 + 1.4*L*) µin	SIP 302M UMM
Micrometer Length Standards	(1 to 12) in	(29 + 1.4*L*) µin	SIP 302M UMM, gage blocks and master plugs

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Chamfer Gages – Dial and Digital	Up to 2 in	580 μin	Cylindrical master ring gages
Chamfer Gages – Dial and Digital	Up to 2 in	590 μin	Cylindrical master ring gages
Thickness (Feeler) Gages	Up to 0.10 in	650 μin	P & W Super-mic and gage blocks
Depth Micrometers –			
Vernier	Up to 12 in	0.6*R*	Gage blocks
Digital	Up to 12 in	260 μin	
Depth Micrometers –			
Vernier	Up to 12 in	0.7*R*	Gage blocks
Digital	Up to 12 in	440 μin	

[1] This laboratory offers commercial calibration service and field calibration service.

[2] Calibration and Measurement Capability (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. Calibration and Measurement Capabilities represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

[4] In the statement of CMC, *L* is the numerical value of the nominal length of the device measured in inches; *R* is the numerical value of the resolution of the device in microinches; *D* is the numerical value of the nominal diameter of the device measured in inches.

The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

ALPHAGAGE

Rockford, IL

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements in the field of calibration. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 10th day of November 2010.

President & CEO
For the Accreditation Council
Certificate Number 1925.01
Valid to April 30, 2012

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.